

## ABSTRACT OF THE DISCLOSURE

A multiplex communication system includes a data relay unit which has a plurality of send/receive (SR) sections. Communication lines are connected to the respective SR sections, and nodes are connected to the communication lines. The data relay unit further includes a destination table and header tables. In the data relay unit, a data frame sent from a node is received by one of the SR sections, and the SR sections which ought to send the data frame are identified by referring to the destination table. A header according to the appropriate communication protocol is formed by referring to one of the header tables. Further the data frame including the formed header is formed and sent to the destination node by the identified SR sections. When nodes are added or eliminated, this system can be reconfigured only by modifying or replacing the destination table and the header tables.